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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/821,170  
Filing Date: April 09, 2004  
Appellant(s): CHIBA ET AL.

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Tarik M. Nabi  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 17 October 2008 appealing from the Office action mailed 19 March 2008.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The Examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is deficient. 37 CFR 41.37(c)(1)(v) requires the summary of claimed subject matter to include: (1) a concise explanation of the subject matter defined in each of the independent claims involved in the appeal, referring to the specification by page and line number, and to the drawing, if any, by reference characters and (2) for each independent claim involved in the appeal and for each dependent claim argued separately, every means plus function

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and step plus function as permitted by 35 U.S.C. 112, sixth paragraph, must be identified and the structure, material, or acts described in the specification as corresponding to each claimed function must be set forth with reference to the specification by page and line number, and to the drawing, if any, by reference characters. The brief is deficient because:

First, the Appellant indicates, in [0017] of Chiba et al. (US Publication 2004/0221926), the range of molybdenum is "more than 8 weight % to 16 weight % of Mo".

However, the Examiner notes that this section indicates that the range of molybdenum is from 8 to 16 weight % molybdenum.

Second, the Appellant indicates that the cobalt-chromium-molybdenum alloy is directed for fine wire for biomaterials "*consisting* of 26 to 31 weight % of Cr (paragraph [0017]..."

However, the Examiner notes that section [0017] recites an alloy "*comprising* 26 to 31 weight % of Cr".

#### **(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

#### **(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

US 5,891,191	Stinson, Jonathon S.	04-1999
JP 2002-363675	Chiba, Masahiko	12-2002

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-4, 11-16 and 23-26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

With respect to the recitation “the alloy being Ni-free” of claims 1 and 15, the Examiner notes that although in paragraph [0006] of the “Related Art” section of the instant specification “there has been a strong demand for development of Ni-free fine wire with Mo content of 8 weight % or more”, there is not a recitation of the alloy being “Ni-free” in the “SUMMARY OF THE INVENTION” section or the “EXAMPLES” section of the instant specification.

Claims 2-4, 11-14, 16 and 23-26 are rejected because of their dependence upon rejected base claims.

Claims 1-4, 11-16, and 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stinson (US 5,891,191).

Stinson ('191) teaches a cobalt-chromium-molybdenum alloy fine wire with a diameter between 0.025-0.500 mm (25-500 $\mu$ m) for an implantable medical device (column 3 line 32), said alloy comprising (in weight percent): 26-31% chromium, 4-8% molybdenum, <2% nickel, balance cobalt (column 3 lines 42-45).

Concerning the degree of roundness (claims 1, 4, 15 and 16), Stinson ('191) teaches that filaments #12 (wires) of said Co alloy are substantially homogeneous in cross section (see Figure 3, column 5 lines 5-7). Concerning the concentration ratio of molybdenum, chromium and cobalt (claims 1-3), Stinson ('191) teaches the composition of said wires are also substantially homogeneous (column 5 lines 9-10). Because Stinson ('191) teaches an overlapping cobalt-chromium-molybdenum alloy composition formed into a fine wire, and wherein the composition of said wires are substantially homogeneous (column 5 lines 9-10), it is held that substantially the same properties, such as molybdenum concentration ratio (directly related to the homogeneity of the composition) or internal structure phase components are expected to occur. MPEP 2112.01 I. Therefore it is held that Stinson ('191) meets the instant limitations of degree of roundness and concentration ratio.

Overlapping ranges have been held to be a prima facie case of obviousness, see MPEP § 2144.05. It would have been obvious to one of ordinary skill in the art to select any portion of the range, including the claimed range, from the broader range disclosed

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in the prior art, because the prior art finds that said composition in the entire disclosed range has a suitable utility.

With regard to the process steps (including the amended process limitation of “not subjected to wire drawing”), it is well settled that a product-by-process claim defines a product, and that when the prior art discloses a product substantially the same as that being claimed, differing only in the manner by which it is made, the burden shifts to the Appellant to show that any process steps associated therewith result in a product materially different from that disclosed in the prior art. See MPEP 2113, *In re Brown* (173 USPQ 685) and *In re Fessman* (180 USPQ 524) *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to the Appellant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292.

Because Stinson ('191) teaches a cobalt alloy wire with alloying ranges that overlap or touch the boundary of the presently claimed alloying ranges, it is held that Stinson ('191) has created a prima facie case of obviousness of the presently claimed invention.

Concerning claims 11-14 and 23-26, Stinson ('191) teaches said alloy wire is woven to form a lattice structure (column 4 lines 8-11 and Figure 1), thereby forming a stranded cable with a tubular cross section. Though Stinson ('191) does not specify a planar profile/body, it would have been within the scope of Stinson ('191) to form a

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planar edge of said stranded cable. The limitation “planar body” does not patentably distinguish the claimed cobalt-chromium-molybdenum alloy woven wire from the prior art’s cobalt-chromium-molybdenum alloy wire woven into a substantially tubular body (see MPEP 2144.03).

Concerning claim 15, which mentions said cobalt alloy wire has an internal structure of gamma phase or epsilon phase only, or both of them only, the Examiner asserts that “products of identical chemical composition can not have mutually exclusive properties.” *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). A chemical composition and its properties are inseparable. Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). Therefore, if the prior art teaches a substantially identical chemical structure, the properties Appellant discloses and/or claims (such as alloy phases) are necessarily present. MPEP 2112.01 I.

When the Examiner has established a *prima facie* obviousness, the burden then shifts to the Appellant to rebut. *In re Dillon*, 919 F.2d 688, 692, 16 USPQ2d 1897, 1901 (Fed. Cir. 1990) (en banc). Rebuttal may take the form of “a comparison of test data showing that the claimed compositions possess unexpectedly improved properties... that the prior art does not have, that the prior art is so deficient that there is no motivation to make what might otherwise appear to be obvious changes, or any other argument...that is pertinent.” *Id.* at 692-93; USPQ2d 1901.



Appellant has not directed the Examiner to specific evidence of unexpected results/properties that are clearly distinct from the prior art of record, or criticality of the instant claimed range (wherein said results must be fully commensurate in scope with the instantly claimed ranges, etc. MPEP 716.02 (d).

Claims 1-4, 11-16, and 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stinson (US 5,891,191) in view of Masahiko (JP 2002-363675).

Stinson ('191) is discussed in paragraphs above.

Concerning the instantly claimed range of molybdenum, as stated above, Stinson ('191) teaches a maximum of 8 weight percent molybdenum. However, Masahiko (JP '675) teaches higher molybdenum (up to 12%, see abstract, etc) as being useful for improving corrosion and abrasion resistance [0004]. It would have been obvious to one of ordinary skill in the art to improve the molybdenum content of the cobalt-chromium-molybdenum alloy taught by Stinson ('191), because Masahiko (JP'675) teaches higher molybdenum (up to 12%, see abstract, etc) as being useful for improving corrosion and abrasion resistance [0004].

For other limitations of the instant claims, see the discussion of Stinson ('191) in paragraphs above.

#### **(10) Response to Argument**

First, the Appellant primarily argues that the Examiner has not contemplated the liberal written description requirement of *Wertheim* in view of the Final Office Action

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alleging that the recitation of "the alloy being nickel-free" of claims 1 and 15 is not adequately described in the description; there is a recitation of "nickel-free" fine wire in paragraph [0008] of Appellant's United States Patent Application Publication Number 2004/0221926; "superior corrosion resistance and wear resistance" is indicated in paragraph [0008] as being the result of a nickel-free fine wire; the Summary of the Invention in paragraph [0010] indicates that the invention is made "in light of the above demands" the demands being that the alloy fine wire should be nickel-free; and the Summary of the Invention of Appellant's United States Patent Application Publication Number 2004/0221926 indicates that the claimed alloy fine wire has "excellent biocompatibility" in paragraph [0010] and, in contrast, paragraph [0005] teaches that nickel is "allergenic" and that it is "preferred not to contain nickel in fine-wire used in the medical field".

In response, the Examiner first notes that [0008] of Appellant's United States Patent Application Publication Number 2004/0221926 recites "and there has been a strong demand for development of a Ni-free fine wire with Mo content of 8 weight % or more". However, just because the Appellant is aware of the strong demand does not necessarily mean that the Appellant's specification conveys possession of a Ni-free fine wire. Further, in view of the Appellant not reciting "consisting of" language with respect to the cobalt-chromium-molybdenum alloy or the cobalt-chromium-molybdenum alloy being "Ni-free" in the "SUMMARY OF THE INVENTION" or "EXAMPLES" sections of the specification, the presence of nickel in the cobalt-chromium-molybdenum alloy would not be precluded as indicated by the Appellant in [0010] of Appellant's United

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States Patent Application Publication Number 2004/0221926 because [0005] allows for up to 5 weight percent nickel.

[0005] To meet such demands, a technology realizing plastic working by adding Ni to this alloy has been proposed (see patent reference 1, Japanese Laid-open Patent No. H10-43314). Specifically, by manufacturing a long member of Co—Cr—Mo containing Ni by less than 5 weight %, a transplantable medical device can be presented. However, Ni is allergenic, and it is preferred not to contain Ni in fine wire used in the medical field. According to the technology disclosed in patent reference 1, fine wires not containing Ni are also included, but only those containing Ni are shown in the embodiments of the detailed description of the invention, and it is not known whether or not Ni-free fine wire can be processed.

Second, the Appellant primarily argues that Stinson ('191) teaches a content of molybdenum that is "between about 4-8 weight percent molybdenum" (column 3, line 44 and that nowhere in Stinson ('191) is there any teaching of a broader range or a higher range of molybdenum content. The Appellant further argues that the higher range of the "more than 8 weight %" molybdenum also provides the unexpected result of a better corrosion and wear resistance, as indicated in the paragraph [0006] of Appellant's Patent Application Publication Number 2004/0221926 and obtaining a range of molybdenum of more than 8 percent is not obvious based on the teachings of Stinson ('191).

In response, the Examiner asserts that "between about 4-8 weight percent molybdenum" as in column 3, line 44 of Stinson ('191) would encompass molybdenum amounts slightly less than 4 weight percent molybdenum and molybdenum amounts slightly more than 8 weight percent molybdenum. MPEP 2144.05 I. Alternatively, the Appellant has not provided evidence/data that shows that the range of "more than 8

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weight % to 16 weight % Mo” provides unexpected amounts of corrosion resistance and wear resistance and the range of about 4-8 as disclosed by Stinson ('191) would be close enough to establish a prima facie case of obviousness. MPEP 2144.05 I.

Third, the Appellant primarily argues that Stinson ('191) teaches an alloy that includes nickel, as evidenced in the abstract, in which the representative embodiment includes 1% nickel; Stinson ('191) teaches that "Nickel enhances the ductility of the alloys, improving its ability to be mechanically drawn or formed" (column 2, lines 3-6; column 1, lines 44-50), and thus teaches that the presence of nickel in an alloy is desirable. The Appellant further argues that Stinson ('191) indicates that the invention relates to an improved implantable medical device comprised of cobalt-chromium-molybdenum alloy containing less than about 5 weight percent nickel, or containing less than about 2 weight percent nickel (column 3, lines 31-44) and although "less than about" either 5 weight percent or 2 weight percent nickel could be interpreted as including a nickel-free alloy, the teachings of Stinson ('191) must be read in light of the entirety of the Specification and the above-cited portion in particular, which teaches that the improvement over the background art for Stinson ('191) is to decrease the level of nickel to less than 5 or less than 2 weight percent, but does not teach to eliminate nickel entirely because "Nickel enhances ductility of the alloys" (column 2, lines 3-10). Thus, the Appellant submits that because Stinson ('191) teaches nickel as being a beneficial component and there is a rationale as to why nickel should be present, one skilled in the art would read Stinson ('191) as including a nickel-free alloy and teaches away from a nickel-free alloy because of the beneficial aspects of having nickel in an alloy.

In response, the Examiner notes that "less than about 2 weight percent nickel" would encompass 0 weight percent nickel. Although the Appellant points to the abstract and sections of Stinson ('191) where the presence of nickel would provide improved ductility. Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or non-preferred embodiments. MPEP 2123 II. Although nickel may provide improved ductility in a cobalt-chromium-molybdenum alloy (column 2, lines 3-10), it would have been obvious to one of ordinary skill in the art at the time the invention was made to omit nickel where improved ductility would not be required or desired. MPEP 2144.04 II (A).

Fourth, the Appellant primarily argues, with respect to page 3 of the Office Action of 1 October 2007 where it is indicated that filaments #12 of the cobalt alloy are substantially homogenous in cross section, that these teaches are relative to concentrations of molybdenum, chromium, or cobalt, but are not relevant to a specific geometric attribute, namely, roundness, as recited in independent claims 1 and 15 and there is no teaching anywhere in Stinson ('191) of a degree of roundness, i.e., a ratio of a minor diameter over a major diameter and the feature of "degree of roundness" is erroneously construed by the Examiner to be equivalent to a concentration of the various components of the alloy and Stinson ('191) does not teach a degree of roundness of a lateral cross section of the wire being 0.6 or more, as recited in independent claims 1 and 15.

In response, the Examiner notes that in the "BRIEF DESCRIPTION OF THE DRAWINGS" section, Figure 3 is referred to as a cross-sectional view of one of the

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filaments and not relative to concentration of molybdenum, chromium, or cobalt and the composition of the filaments is substantially homogeneous (column 5, lines 9-10).

Furthermore, the Applicant has not shown that the relative dimensions “a degree of roundness (minor diameter/major diameter) of lateral cross section of 0.6 or more”; “a diameter of 200 micrometers or less”; and “a uniform structure with a concentration ratio of maximum Mo concentration phase with respect to minimum concentration phase of 1.8 or less” would perform differently from the prior art. Changing the size/proportion alone is insufficient to distinguish from the prior art. MPEP 2144.04 (IV) (A).

Fifth, the Appellant primarily argues, in the combination of Stinson (US 5,891,191) with Masahiko (JP 2002-363675), that there is no teaching in Masahiko (JP '675) of either the alloy being nickel-free, or a degree of roundness of 0.6 or more and Masahiko (JP '675) fails to disclose, suggest or render obvious the features of the alloy being nickel-free and of a degree of roundness of 0.6 or more as recited in independent claims 1 and 15. The Appellant further argues that Masahiko (JP '675) fails to cure the deficiencies in Stinson ('191) and thus has failed to establish a prima facie rejection of independent claims 1 and 15 over Stinson ('191) in view of Masahiko (JP '675).

In response, the Examiner notes that Masahiko (JP '675) does not necessitate the presence of nickel in the alloy (see abstract) and the Appellant has not shown that “a degree of roundness (minor diameter/major diameter) of lateral cross section of 0.6 or more” would perform differently from either Stinson ('191) or Stinson ('191) in view of Masahiko (JP '675). Changing the size/proportion alone is insufficient to distinguish from the prior art. MPEP 2144.04 (IV) (A).

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**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the Examiner in the Related Appeals and Interferences section of this Examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Jessee Roe/

Examiner, Art Unit 1793

Conferees:

Roy King

/Roy King/

Supervisory Patent Examiner, Art Unit 1793

/Gregory L Mills/

Supervisory Patent Examiner, Art Unit 1700